***FOR YOUR RECORDS**. . .*

DATE PURCHASED _____

*DEALER*_____

SERIAL# _____

** NOTE: Please complete and return your warranty card within ten (10) days.*

"It delivered room-shaking bass and dramatically demonstrated the effectiveness of a single subwoofer placed to one side of the room."

- Julian Hirsh
Stereo Review, January 1997

"In general, the Velodyne could play slightly louder, and often cleaner, than the Sunfire."

-D.B. Keele, Jr.
Audio/June 1998

"How do they get this kind of bass out of such a tiny box? Deep, tight, tuneful and loud enough to rattle pictures on the wall--this is serious subwoofing."

-Robert Deutsch
Stereophile Guide to Home Theater/September 1998

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Printed on recycled paper

63-SPL81012 Rev B 08/02

SPL-800
SPL-1000
and
SPL-1200

Owner's Manual

Velodyne®

Audio/Video Subwoofer System

IMPORTANT SAFETY INSTRUCTIONS

Caution: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.

The lighting flash with arrowhead symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the subwoofer.

1. Read Instructions -- All safety and operating instructions should be read before the subwoofer is operated.
2. Retain Instructions -- The safety and operating instructions should be retained for future reference.
3. Heed Warnings -- All warnings on the subwoofer and in the operating instructions should be adhered to.
4. Follow Instructions -- All operating and use instructions should be followed.
5. Water and Moisture -- The subwoofer should ***not*** be used near water -- for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, or the like.
6. Carts and Stands -- The subwoofer should be used only with a cart or stand recommended by the manufacturer to avoid injury from tipover.
7. Wall or Ceiling Mounting -- The subwoofer should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation -- The subwoofer should be situated so that its location or position does not interfere with its proper ventilation. For example, the subwoofer should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat -- The subwoofer should be situated away from heat sources such as radiators, heat registers, stoves, or other subwoofers that produce heat.
10. Power Sources -- The subwoofer should be connected to a power supply only of the type described in the operating instructions or as marked on the subwoofer.
11. Power-Cord Protection -- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point at which they exit from the subwoofer.
12. Caution: To prevent electrical shock, match wide blade of plug to wide slot, fully inserted.
13. Cleaning -- The subwoofer should be cleaned only as recommended by the manufacturer.
14. Nonuse Periods -- The power cord of the subwoofer should be unplugged from the outlet when left unused for a long period of time.
15. Object and Liquid Entry -- Care should be taken so that objects do not fall and liquids are not spilled onto the enclosure.
16. Damage Requiring Service -- The subwoofer should be serviced by qualified service personnel when:
    a. The power-supply cord or plug has been damaged.
    b. Objects have fallen or liquid has been spilled into the subwoofer.
    c. The subwoofer has been exposed to rain.
    d. The subwoofer does not appear to operate normally or exhibits a marked change in performance.
    e. The subwoofer has been dropped or damaged.
17. Servicing -- The user should not attempt to service the subwoofer beyond what is described in the operating instructions.
18. Overloading -- Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
19. Replacement parts -- When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
20. Safety Check -- Upon completion of any service or service of repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

All other servicing should be referred to qualified service personnel.

The following conditions require service by a qualified technician:

1. The power cord has become damaged.
2. The unit does not appear to operate normally or exhibits a marked change in performance.
3. The unit has been exposed to water.
4. Some part of the cabinet or circuitry is physically damaged.

SPECIFICATIONS	***SPL-800***	***SPL-1000***	***SPL-1200***
Cabinet (H,W,D) (incl. feet and grill)	10.5" x 10.25" x 12"	12.75" x 12.25" x 13.75"	14.75" x 14.5" x 15.75"
Frequency Response (+/-3 dB)	28Hz - 120Hz	24Hz - 120Hz	22Hz - 120Hz
Harmonic Distortion	<5% (typical)	<5% (typical)	<5% (typical)
High Pass Crossover	80Hz (6 dB/octave)	80Hz (6 dB/octave)	80Hz (6 dB/octave)
Low Pass Crossover	40Hz - 120Hz	40Hz - 120Hz	40Hz - 120Hz
	(12 dB/octave initial, 48 dB/octave ultimate)		
Phase	0° or 180°	0° or 180°	0°or 180°
Amplifier (Class D)	1200 watts Dynamic/ 600 watts RMS power	1500 watts Dynamic/ 750 watts RMS power	1500 watts Dynamic/ 750 watts RMS power
Woofer (forward firing)	8" (6.5" Piston Diameter)	10" (8" Piston Diameter)	12" (9.7" Piston Diameter)
Magnetic Structure	204 oz. (12.7 lbs.)	346 oz. (21.6 lbs.)	346 oz. (21.6 lbs.)
Voice Coil	2.5" Dual Layer inner/outer wind	3" Dual Layer inner/outer wind	3" Dual Layer inner/outer wind
Inputs	Line and Speaker Level	Line and Speaker Level	Line and Speaker Level
Outputs	Line-level, 80Hz up	Line-level, 80Hz up	Line level, 80Hz up
Magnetically Shielded	No	Yes	Yes
Warranty (parts/labor)	Two years	Two years	Two years
Weight (approx.)	35 lbs.	47 lbs.	57 lbs.

Specifications are subject to change without notice.

Thank you for purchasing a Velodyne!

Vorsicht: Zur Vermeidung von Gefahr durch elektrischen Schlag, Deckel (oder Rückwand) nicht abnehmen. Produkt enthält keine Anwenderteile. Reparatur und Wartung nur von qualifiziertem Fachpersonal vornehmen lassen.

Das Blitzsymbol dient als Hinweis auf unisolierte „gefährliche Spannungen“ innerhalb des Gehäuses, deren Werte eine Berührungsgefahr für den Menschen darstellen können.

Das Symbol mit dem Ausrufungszeichen dient als Hinweis auf wichtige, in den Unterlagen des Subwoofers enthaltene Bedienungs- und Wartungsvorschriften.

1. Anleitungen lesen - Alle Sicherheits- und Bedienungsanleitungen vor Inbetriebnahme des Subwoofers aufmerksam durchlesen.
2. Anleitungen aufbewahren - Die Sicherheits- und Bedienungsanleitungen zur späteren Bezugnahme aufbewahren.
3. Warnungen beachten - Alle Warnungen am Subwoofer und in der Bedienungsanleitung unbedingt beachten.
4. Anleitungen befolgen - Alle Bedienungs- und Gebrauchsanleitungen genau befolgen.
5. Wasser und Feuchtigkeit - Subwoofer nicht in der Nähe von Wasser aufstellen, d.h. neben einer Badewanne, Spüle, Waschmaschine, in einem feuchten Keller, in der Nähe des Swimmingpools o.ä..

IMPORTANTES CONSIGNES DE SECURITE

Attention: Afin d'éviter tout risque d'électrocution, ne pas enlever le boitier (ou partie arrière de l'enceinte). Aucune pièce ne doit être manipulée par l'utilisateur. Pour tout entretien, vous référer à un personnel de service qualifié.

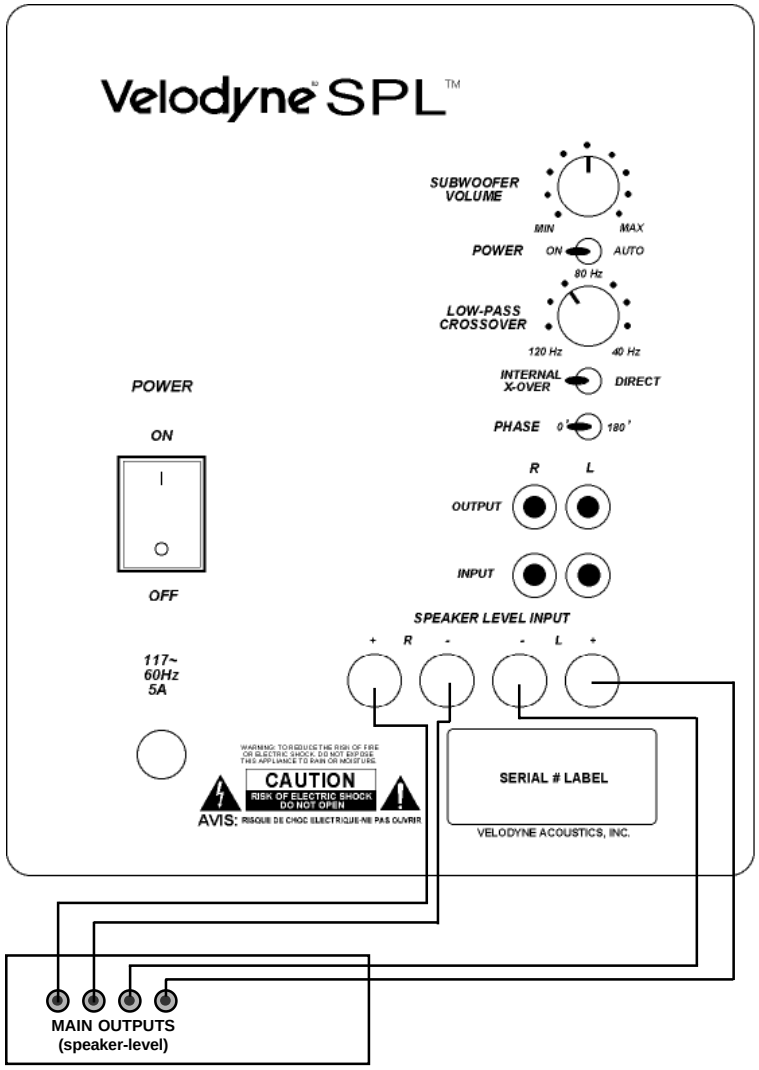
Le symbol de l'éclair avec la flèche sert à avertir l'utilisateur de la présence d'un "voltage dangereux" non isolé dans l'enceinte du produit d'une magnitude pouvant constituer un risque d'électrocution de personnes.

Le symbol du point d'exclamation sert à avertir l'utilisateur que d'importants conseils de fonctionnement et de maintenance (entretien) sont fournis avec l'enceinte d'extrêmes graves.

1. Lire le mode d'emploi - Tous les conseils de sécurité et de fonctionnement doivent être lus avant de mettre en marche l'enceinte.
2. Garder le mode d'emploi - Il est conseillé de conserver les conseils de sécurité et de fonctionnement pour un éventuel usage futur.
3. Avertissements - Il est important de se conformer à tous les conseils de fonctionnement concernant l'enceinte et à toutes les instructions inscrites sur l'enceinte.
4. Suivre les conseils - Tous les conseils d'utilisation et de fonctionnement doivent être suivis à la règle.
5. Eau et humidité - Ne pas utiliser l'enceinte près d'une source d'eau - par exemple, près de la baignoire, d'une bassine de lavage, d'un évier de cuisine, d'un bac à lavage, dans un sous-seul mouillé, près d'une piscine…
6. Pieds et Supports - N'utiliser que des pieds et supports recommandés par le fabricant.
7. Assemblage mural ou au plafond - Se conformer uniquement aux instructions du fabricant pour fixer l'enceinte sur un mur ou sur un plafond.
8. Ventilation - Il est important de placer l'enceinte de telle sorte qu'elle ne gêne pas sa propre ventilation. Par exemple, ne pas placer l'enceinte sur un lit, un canapé, sur la moquette, ou sur toute surface similaire qui bloque les ouvertures de ventilation ; ne pas poser l'enceinte dans une meuble encastré ou fermé telle qu'une bibliothèque ou un meuble qui empêche l'air de circuler par les ouvertures de ventilation de l'enceinte.
9. Chaleur - Placer l'enceinte loin de toute source de chaleur tels que radiateurs, compteurs thermiques, fours ou autres enceintes dégageant de la chaleur.
10. Sources d'électricité - Ne brancher l'enceinte que dans une prise du type décrit dans le mode d'emploi ou comme indiqué par le fabricant.
11. Protection du cordon électrique - Les cordons électriques doivent être fixés pour éviter que toute personne ne marche dessus et que rien ne puisse être placé sur ou contre eux - faire tout particulièrement attention aux cordons branchés dans des prises électriques, à des réceptacles et à leurs points de sorties de l'enceinte.
12. "Attention : Afin d'éviter tout choc électrique, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond".
13. Nettoyage - Pour le nettoyage de l'enceinte, suivre scrupuleusement les instructions du fabricant.
14. Périodes de non-utilisation - Le cordon électrique de l'enceinte doit rester débranché si l'enceinte reste inutilisée pendant une longue période de temps.
15. Infiltration d'objet ou de liquide - Faire attention à ce qu'aucun objet ne tombe et à ce qu'aucun liquide ne soit versé sur l'enceinte.
16. Dommages nécessitant réparation - L'enceinte ne doit être réparée que par du personnel qualifié lorsque :
    a. le cordon électrique ou la prise ont été endommagés.
    b. Des objets sont tombés ou du liquide a été versé sur l'enceinte.
    c. L'enceinte a été exposée à la pluie.
    d. L'enceinte ne semble pas fonctionner normalement ou indique un changement de performance.
    e. L'enceinte est tombée par terre ou a été endommagée.
17. Entretien - L'utilisateur ne doit pas tenter de réparer l'enceinte au-delà de ce qui est décrit dans le mode d'emploi.
18. Surcharge - Ne pas surcharger les prises murales, les rallonges, ou les prises femelles encastrées de commodité. On risquerait un incendie ou un choc électrique.
19. Pièces de rechange - Lorsque le remplacement d'une pièce s'avère nécessaire, s'assurer que le technicien utilise la pièce spécifiée par le fabriquant, ou une pièce possédant les mêmes caractéristiques que la pièce d'origine. Les substitutions non autorisées peuvent provoquer des incendies ou des chocs électriques, ou présenter d'autres dangers.
20. Contrôle de sécurité - Après toute intervention technique sur ce produit (neuf ou réparé), demander au technicien de procéder à un contrôle de sécurité pour vérifier qu'il est en bon état de marche.
    Toute autre réparation doit être référée à du personnel qualifié.

extended period of time, we recommend that you turn off the master power switch on the rear panel.

Figure 2. Installation Using Speaker-level Inputs



continued. . .

Speaker-level Connection

Figures 2 shows an easy way to connect your Velodyne subwoofer directly to your receiver or integrated amplifier, if it lacks line-level outputs. You may also connect your satellites directly to your receiver or amplifier along with the subwoofer. Your receiver or amplifier will not notice the additional load of the suboofer due to the high input impedance.

Caution!!! To avoid damage to your main amplifier, be sure to maintain correct polarity when making all connections. Red (positive) to red, and black (negative) to black. Be sure that all connections are tight, and that there are no loose strands or frayed wires.

Interconnect Cables

When installing your new Velodyne subwoofer using the line level connections, you should always use shielded phono cables. There are many decent cables available today, most any of which will work perfectly well. We do recommend that you keep the length of cable as short as possible to avoid any potential noise problems.

When using speaker level connections, use a decent quality speaker cable that mates well with the connectors. Be very careful to avoid any loose strands or frayed wires which may result in a short, which may damage your equipment. Cables of extremely large size are typically not required. Extremely large gauge wire may not properly fit in the binding posts, resulting in a poor connection and possible short circuits.

Care of Your Subwoofer

Your Velodyne subwoofer does not require any regular maintenance. Normal dusting or cleaning of the surface for appearance purposes are all that is required. We suggest you avoid any harsh detergents or chemicals when cleaning the cabinet. Abrasives, detergents, or cleaning solutions may damage the finish on the cabinet. We recommend using only a damp cloth to clean the cabinet.

During normal conditions, your new subwoofer may be left on continuously without any problems. The unit is equipped with a signal-sensing turn on/ off that will automatically turn on the unit when a signal is present at the inputs and turn off the unit after several minutes when there is no longer any signal at the inputs. If you plan to leave the subwoofer unused for an

continued...

Congratulations!

Congratulations on your purchase of a Velodyne subwoofer system. This system represents the state of the art in home audio reproduction and will provide you with years of listening pleasure when properly cared for. Read and follow this instruction manual to insure safe and proper system connection and operation.

Caution!
Please observe the following instructions to insure safe and proper system operation.

Note: Do not leave unit in direct sunlight or use in high humidity environments!!!

Warning!
To prevent fire or shock hazard, do not expose this equipment to rain or moisture. To avoid electrical shock, do not open speaker enclosure or amp chassis cover. Please observe all warnings on the equipment itself. There are no user serviceable parts inside. Please refer all service questions to your authorized Velodyne dealer.

Prior to installation-
Please unpack the system carefully. This unit is heavy. Use caution when lifting or moving to avoid injury. Remove all staples used to seal the carton as they can scratch the cabinet. Please save the carton and all packaging materials for future use. Packing this unit in any other carton may result in severe damage when shipping. Record the serial number in the space provided on the warranty card for future reference.

continued. . .

Product Features

- 8" (6.5" piston diameter) subwoofer with 2.5" high-temp voice coil and 107 ounce magnet/204 ounce motor structure; 10" (8" piston diameter) or 12" (9.7" piston diameter) subwoofer with 3" voice coil and 162 ounce magnet/346 ounce motor structure
- Built-in 1500 watts Dynamic/750 watts RMS high efficiency class D amplifier (SPL-1000 and SPL-1200); 1200 watts Dynamic/600 watts RMS (SPL-800)
- Adjustable (40 to 120Hz) low-pass crossover (defeatable)
- Line-level (RCA) inputs and outputs
- Speaker-level inputs with 5 way binding post connections
- Signal sensing auto turn on/off (defeatable)
- Variable volume control
- Selectable phase control (0° or 180°)
- Frequency response of 28 - 120 Hz (SPL-800), 24 - 120Hz (SPL-1000), 22-120Hz (SPL-1200)
- Magnetically shielded for video use (SPL-1000 and SPL-1200)
- Multiple staggered low-pass crossovers; 12dB/octave initial, 48dB/octave ultimate
- Driver Displacement Control circuit prevents over excursion and amp clipping
- Blue power indicator LED
- High-excursion EPDM rubber surround
- Oversized spider for linearity at high excursion

Prepare for Installation

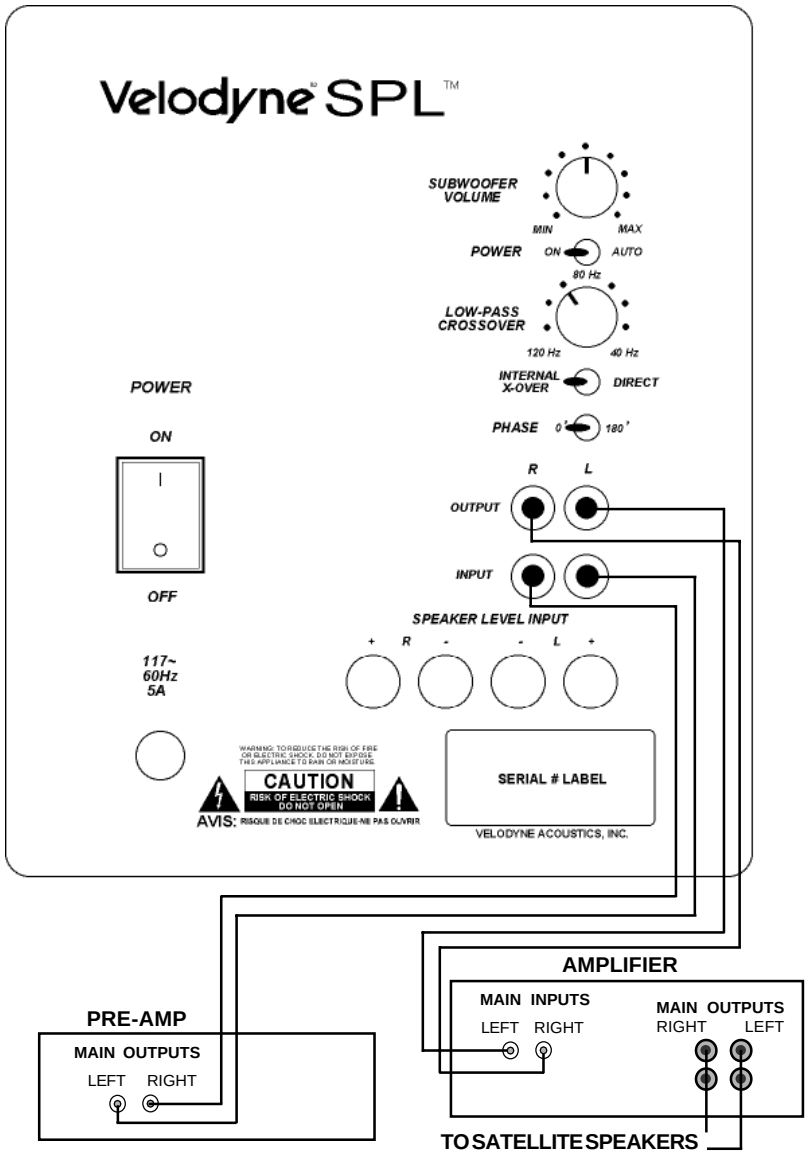
Your new Velodyne subwoofer provides for a number of installation options. Read all the installation information below in order to determine which installation option is best for your system. **Remember to perform all installation procedures with system power turned off to prevent possible damage.**

Placement

True subwoofers operate at extremely low frequencies which are primarily omni-directional. While it is recommended that the subwoofer be placed on the same plane as the satellite speakers, room and system conditions often dictate otherwise. Keep in mind that frequency response and output level can be **drastically** influenced by placement, depending on the acoustic properties of the listening room. Typically, the optimum location for a subwoofer is tucked away in a corner of your listening room. This

continued. . .

Figure 1. Installation Using Line-level Inputs



continued. . .

Line-level Connection

Figure 1 shows connection to a pre-amplifier's main outputs and returning them to your amplifier inputs.

When installed in this fashion, your satellite speakers will be crossed over at 80Hz which removes the lower bass from your amplifier and speakers, enabling them to do a better job reproducing high frequencies. By utilizing this method, you will have a bi-amplified system, gaining improved power and headroom for your system.

Subwoofer Outputs

The Velodyne subwoofer is designed to operate using the full range audio signal for input when using the built-in crossover. Many home theater processors/receivers (Dolby Digital, DTS, THX) have a "subwoofer out" jack that is internally filtered and designed to be used with a powered subwoofer. In these installations, you may bypass the internal crossover in either the processor or the Velodyne subwoofer. In some installations, it may be beneficial to have a steeper ultimate crossover slope. To do this, you can use both your processor's crossover and the one internal to the Velodyne sub. You should stagger the frequencies, (i.e., 120Hz sub, 80Hz processor) for best results.

To bypass the subwoofer's internal crossover when the unit is being fed a low pass signal from another crossover, simply locate the switch marked **INTERNAL X-OVER/DIRECT** on the rear panel of the subwoofer and set to the **DIRECT** position. This will eliminate the internal crossover from the signal path.

Note: If not using an external crossover, you should use the built-in crossover for optimal performance. When using a single channel input (such as a surround sound processor's subwoofer out or LFE), the auto on/off circuit sensitivity will be affected. When one input channel is used instead of two, the unit will see lower signal levels present at the inputs. This may cause the unit to turn off when listening at low volume levels. If this occurs, simply use a "Y" adapter (available from most dealers) to allow your processor's single sub line to be fed into both L&R inputs. This will make the unit turn on at lower signal levels.

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location will usually offer the greatest output levels and optimum low frequency extension. The worst location for a subwoofer is typically far away from any walls, and close to the center of your room. Avoid these locations when possible. When using a pair of Velodyne subwoofers in stereo, it is preferable to place each subwoofer by the satellite of the same channel.

Caution! This subwoofer has electronics built into the cabinet. Do not place the cabinet next to sources of heat such as furnace registers, radiators, etc. Do not place the unit near sources of excessive moisture, such as evaporative coolers, humidifiers, etc. The power cord should be routed in such a way that it will not be walked on, pinched, or compressed in any way that could result in damaging the insulation or wire.

Regardless of where you install your Velodyne subwoofer, it must remain in an upright position (woofer facing forward). Using, shipping, or otherwise storing the subwoofer in any other position for an extended period of time may result in damage to the unit not covered by warranty.

The SPL-1000 and SPL-1200 are magnetically shielded to reduce the amount of stray magnetic energy emitted from the speaker's motor structure. This greatly increases flexibility when placing the unit close to video monitors as there is very little stray magnetism. Certain types of televisions are particularly sensitive to stray magnetic fields. If your television produces distorted colors after installing your subwoofer, simply increase the distance between your television and the subwoofer, until normal color and operation is returned.

Your new Velodyne subwoofer, like any good speaker system, requires proper positioning within the listening space to provide maximum performance. Improperly placed speakers may degrade the sound quality and reduce your listening pleasure. Depending on the size and type of furnishings in the room, perfect placement may not be possible. Finding the best location for your environment will likely require some experimentation. We suggest you experiment with the location during setup to find what sounds best to you when seated in your typical listening position.

Installation

Inputs

Your new subwoofer is equipped with speaker-level and line-level inputs. Use the **LINE LEVEL** jacks when connecting your subwoofer to a pre-amp,

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signal processor, line-level crossover, or receiver with pre-amp level outputs. The **SPEAKER LEVEL** jacks connect directly to the speaker outputs of any amplifier, integrated amplifier, or receiver. Your amplifier section will notice no additional loading effects when you use these inputs due to their very high impedance.

Important!!!
Do not use both LINE LEVEL and SPEAKER LEVEL connections simultaneously!

Volume control
This control allows you to balance the output from the subwoofer to the main speakers/amplifier in your system. This control should be set to achieve similar output level from both the main speakers and subwoofer when listening to music. A good starting point for the volume control is 3 or 4 dots from minimum.

Low-pass crossover - 40 to 120Hz
All inputs sum the left and right channels together, with the resulting signal passing through an adjustable low-pass crossover before being amplified. The crossover control allows you to adjust the upper limit of the subwoofer's frequency response from 40 to 120Hz. The subwoofer's response will begin rolling off above the frequency you set this control to. You should set the crossover frequency to obtain a smooth and seamless transition from the subwoofer to the main speakers in your system. If your main speakers are smaller units with limited low frequency output, you may wish to choose a higher frequency (such as 100-120Hz) than you would with larger speakers which have greater low frequency output. With larger speakers, you might start with this control set lower, such as 80Hz.

A bypass switch is also provided if you wish to use an external crossover. ***If you are not using an external crossover, we recommend that you use the one provided within the unit for optimum performance!***

Phase adjustment - 0°/180°
This control allows you the "reverse" the phase of the subwoofer's output signal 180° to correct for any possible mismatch and resulting cancellation between the subwoofer and your main speakers/amplifier. To adjust, simply listen to the system with music playing. Then move the switch from one position to the other and listen for a change in low frequency output. The correct position will have a greater amount of apparent low frequency output.

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Crossover switch - INTERNAL X-OVER/DIRECT
This switch allows the electronic crossover circuitry to be removed from the signal path. This is required in certain installations which route the signal through external processors with a crossover circuit of their own, such as the new digital units. Simply move the switch to **DIRECT** to disengage the built in crossover. For all other installations which do not have a separate electronic crossover, we recommend you leave the switch set to **INTERNAL X-OVER** to provide optimum performance.

Auto turn on function
With this function in the "auto" position, your subwoofer can be safely left with the main power switch on continuously. The subwoofer will turn itself on automatically when an audio signal is present. If no signal is present for approximately 10 minutes, the unit will switch to standby mode. While in standby mode, your subwoofer will draw very minimal power. This function can be disabled by leaving the switch in the "on" position.

Power switch
The master power switch is located on the lower half of the unit. This rocker style switch is the main on/off for the unit. This switch should be set to position **1 (up) for on**, and **0 (down) for off**. If the unit is to be left unused for an extended period of time, the master power switch should be turned off.

Subwoofer outputs
The Velodyne subwoofer is designed to operate using the full range audio signal for input when using the built-in crossover. Some processors/ receivers, have a "subwoofer out" jack that is internally filtered and designed to be used with a conventional amplifier and speaker. In some rare cases, combining both an external crossover and the one internal to the subwoofer may result in low output and increased noise. In these installations you may need to bypass the internal crossover in either the processor or Velodyne subwoofer. In some installations, simply setting one crossover to a higher frequency (such as 120 Hz) will restore maximum performance. To bypass the subwoofer's internal crossover when the unit is being fed a low pass signal from another crossover, simply locate the switch marked **INTERNAL X-OVER/DIRECT** on the rear panel of the subwoofer and set to the **DIRECT** position. This will eliminate the internal crossover from the signal path.

Note: If not using an external crossover, you should use the built-in crossover for optimal performance.

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